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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,294	05/31/2001	Med A. Nation	INTL-0586-US (P11727)	8631

7590 07/21/2005
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EXAMINER

KIM, KEVIN

ART UNIT PAPER NUMBER

2638

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/871,294	Applicant(s) NATION, MED A.	
	Examiner Kevin Y. Kim	Art Unit 2638	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3-31-2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9,11-25 and 27-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,9,11-14,17-23,25,27-29,31-33,36,37,39,41,42 is/are rejected.
- 7) ☒ Claim(s) 7,8,15,16,24,30,34,35,38 and 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed March 31, 2005 have been fully considered but they are not persuasive.

Applicant argues that the Ohnishi et al fails to teach that the modulated signal has substantially more spectral energy near the harmonic than near the fundamental frequency. However, as pointed out in the previous Office action, the bandpass filter passes the harmonic frequency while suppressing other frequency bands including the fundamental frequency. Therefore, the bandpass effectively tunes the modulated signal such it has substantially more spectral energy near the harmonic than near the fundamental frequency. In fact, this is how it is done in the present invention as described at page 3, lines 8-18 of the specification of the present application.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

3. Claims 1,3-6,9,11-14,17-23,25,27-29,31-33,36,37,39,41-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohnishi et al (US 5,473,280).

Claims 1, 9, 17,18,25,36,37, 39 and 42.

Ohnishi et al discloses (Fig. 2) a modulation method, comprising;
an oscillator (not shown) generating a first signal having a fundamental frequency (f_{c1}),

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a modulator (81) for modulating/multiplying an input signal (I, Q) with the first signal, see Mapping circuit (81) and

a filter (22) for tuning the modulation to a harmonic ($3f_c$) of the fundamental frequency (f_c), see CPX BPF (84), to produce a modulated signal having a carrier frequency near the harmonic. See col. 4, lines 9-27 and Fig.3A-3C. Since the harmonic frequency is passed while other frequency bands including the fundamental frequency f_c are suppressed by the bandpass filter (22), the modulated signal has substantially more spectral energy near the harmonic than near the fundamental frequency

Additionally with respect to claim 17, the radio communication system of Ohnishi et al inherently includes "circuitry to communicate the modulated to a communication system."

Regarding claims 3,11,19,21,28,32 and 41, see the bandpass filter that passes frequencies near the harmonic. See Fig.3B and col. 4, lines 18-27.

Regarding claims 4,12,20,27 and 33, since the bandpass filter (22) passes the harmonic frequency, the spectral energy of the modulated signal near the fundamental frequency is filtered out.

Regarding claims 5, 13,22 and 29, col.4, lines 20-21 describes a third harmonic, which is an odd harmonic.

Regarding claims 6,14 and 23 the input signal to the modulator (81) is a complex signal (I,Q).

Allowable Subject Matter

4. Claims 7, 8, 15, 16, 24, 30, 34, 35, 38 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Venderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kvk



**CHIEH M. FAN
PRIMARY EXAMINER**